



Bureau of Safety and Environmental Enforcement

Unitization

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“To promote safety, protect the environment and conserve resources offshore through vigorous regulatory oversight and enforcement.”

Agenda

- General Info
- Types of Unitization
- Competitive Reservoirs & Compulsory Unitization
- Unit Area
- Requests for Unitization
- Unit Suspensions & Unit Termination

Unitization

Combination of 2 or more leases for joint exploration or development of common hydrocarbon accumulations under terms of...

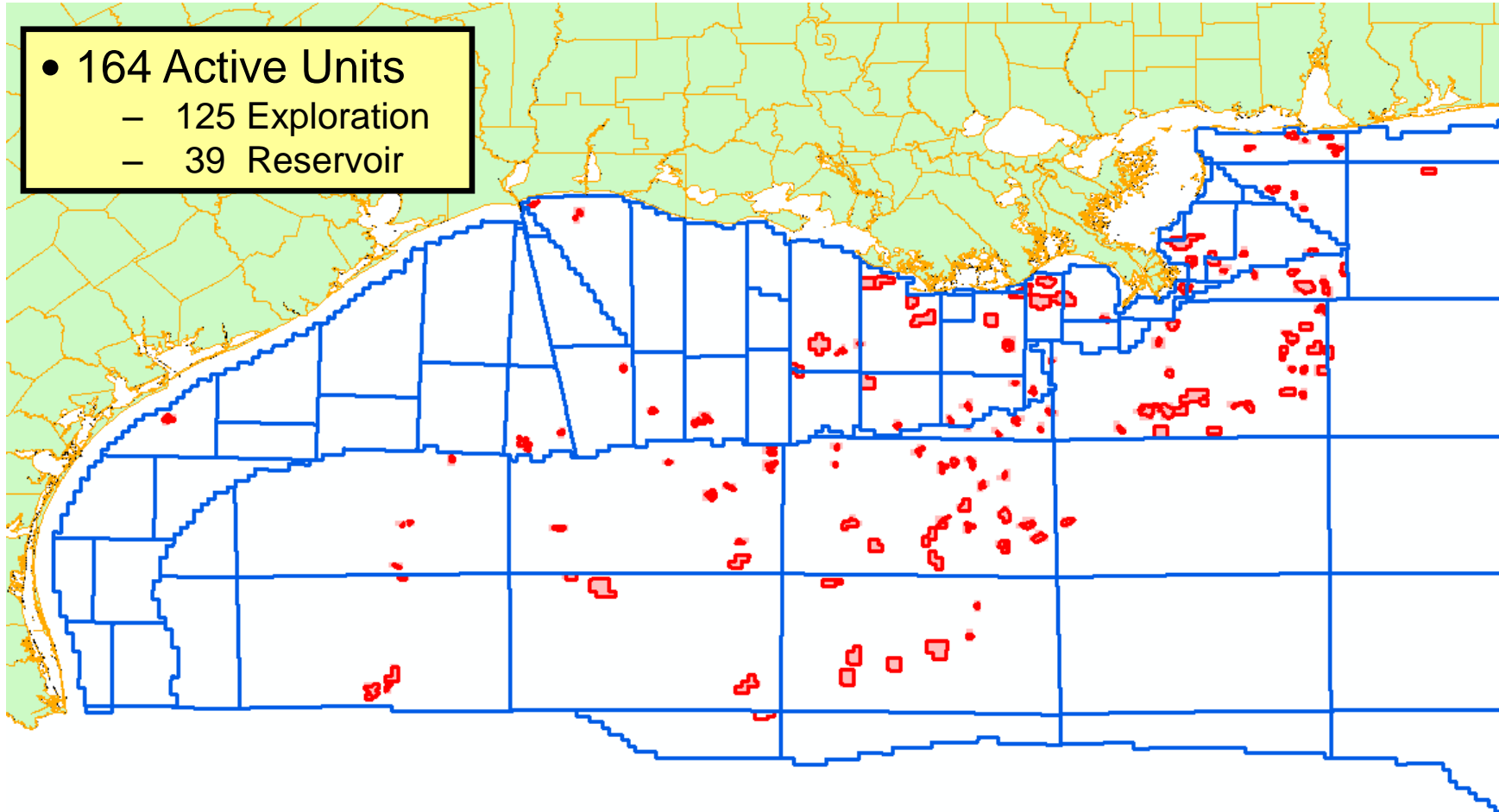
- Unit Agreement
- Unit Operating Agreement

Purpose/Requirements

(30 CFR 250.1300-1301)

- ✓ Promote & expedite exploration & development
- ✓ Conserve natural resources
- ✓ Prevent waste
- ✓ Protect correlative rights, including Federal royalty interests

Gulf of Mexico Units



Benefits of Unitization

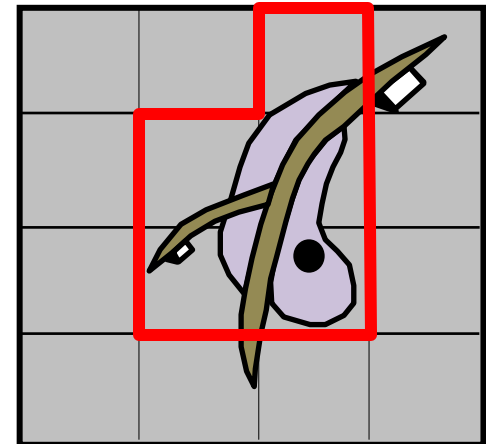
- **Aid development of projects owned by different companies**
 - Prevent negative competition
- **Orderly exploration & development of multiple leases**
 - Eliminate unnecessary wells, platforms, pipelines
 - Optimize drilling regardless of manmade boundaries & lease expiration dates
- **Share costs & risks**
 - Share drilling rigs
 - Share expertise & proprietary data
- **Promote maximum ultimate recovery of oil & gas**
 - Joint development of common geological structure
 - Optimal placement of production and/or injection wells
- **Expedite exploration and development**



Effect on Lease Term

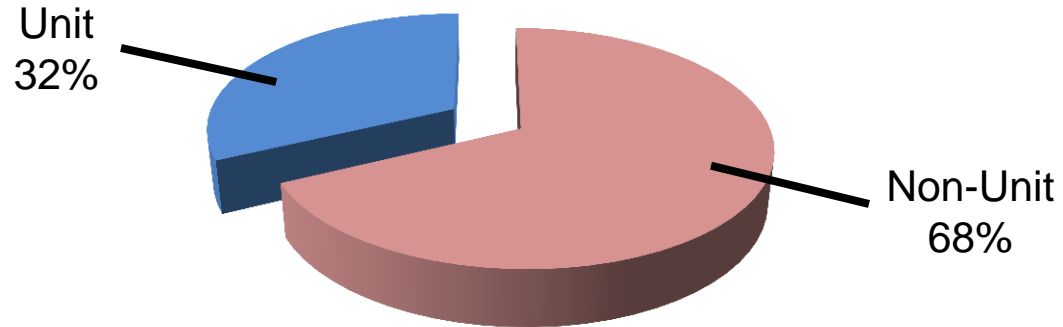
(30 CFR 250.180 & 250.1301(g))

- If lease, or any part of lease, is subject to Unit Agreement, entire lease remains in effect as long as there are lease-holding operations extending unit or unit suspension is in effect
- Lease-holding Operations (+1 yr)
 - Drilling
 - Well-reworking
 - Production in paying quantities

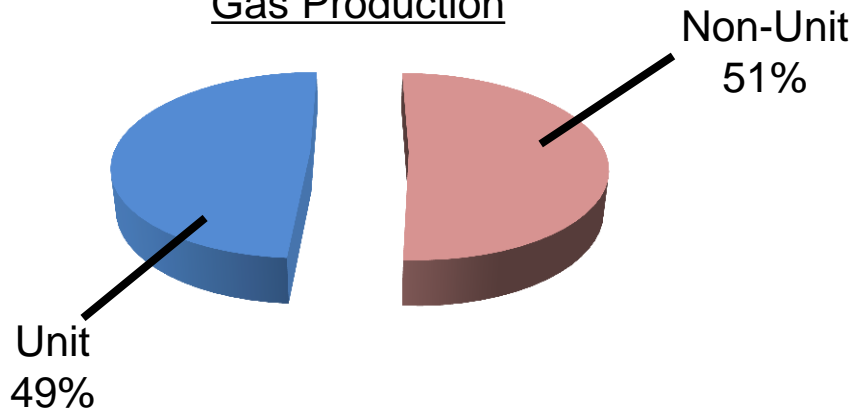


Impact of Units

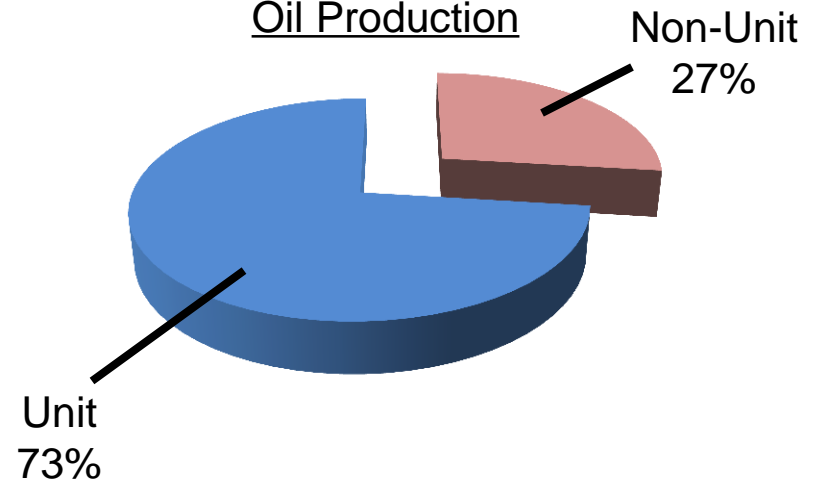
Producing Leases



Gas Production



Oil Production



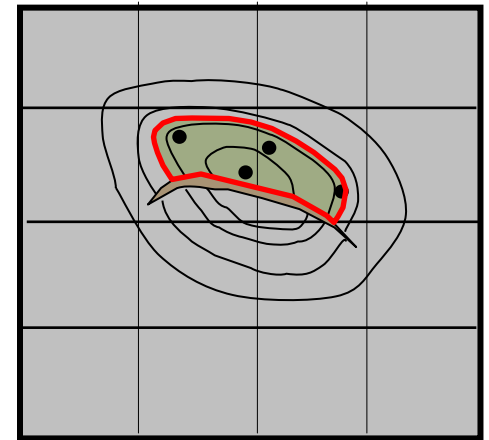
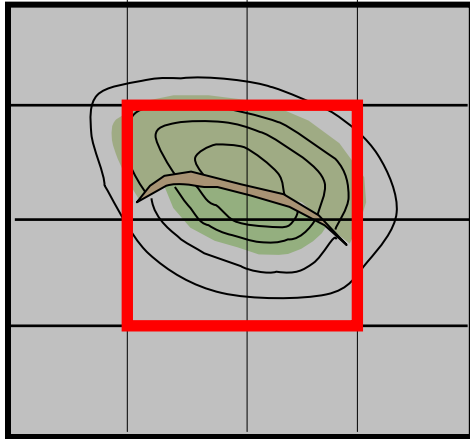
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- General Info
- **Types of Unitization**
- Competitive Reservoirs & Compulsory Unitization
- Unit Area
- Requests for Unitization
- Unit Suspensions & Unit Termination

Types of Unitization

- Voluntary

- Exploration
- Reservoir

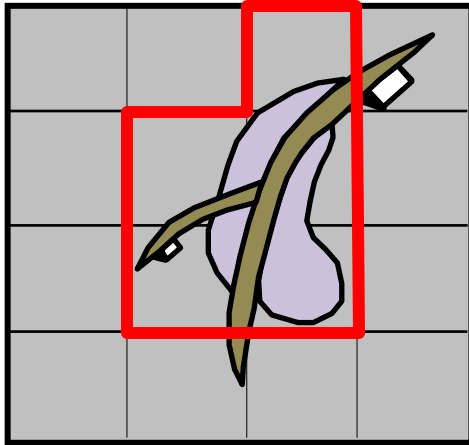


- Compulsory

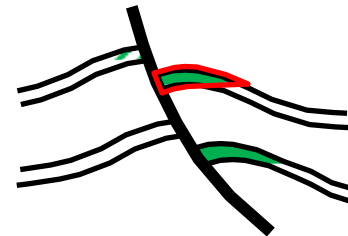
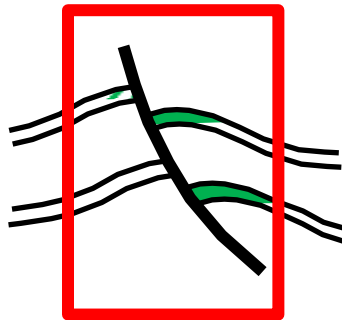
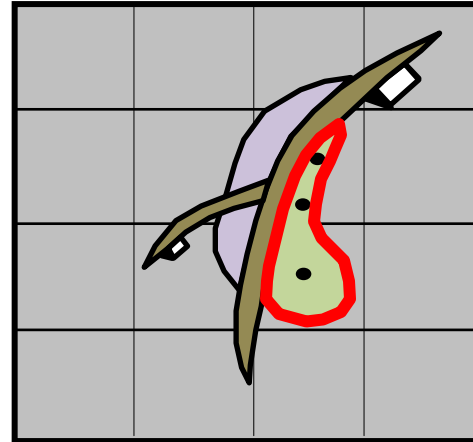
- Reservoir

Types of Unitization

Exploration

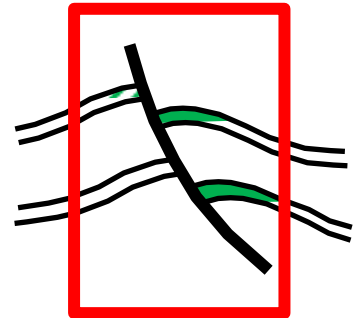


Reservoir



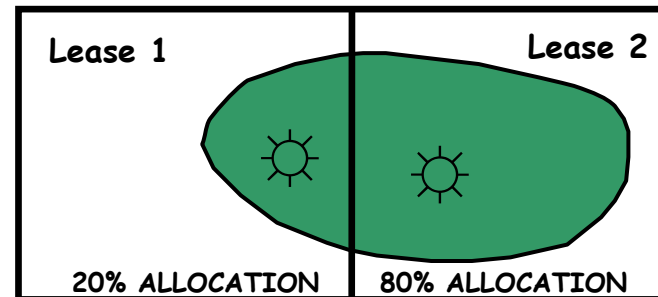
Exploration Units

- **Sometimes referred to as...**
 - Exploration Development and Production units
 - Exploratory units
 - Fieldwide/Field units
- **Often formed before 1st well**
 - Can be formed later (even after 1st prod)
- **Promote & expedite exploration & production**
- **Unit area**
 - Potential hydrocarbon accumulations (geologic structure) common to 2 or more leases
 - Min # leases (or portions of leases)
 - Leases with potential to contribute to unit via well(s)
 - Based on seismic, well logs, etc



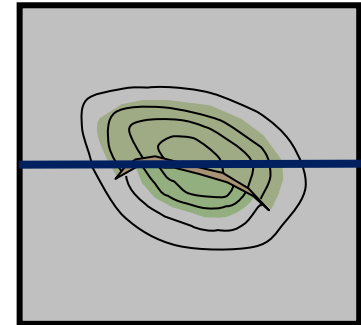
Reservoir Units

- **Sometimes referred to as...**
 - Development and Production units
- **Common & competitive reservoir**
 - Reservoir reasonably delineated
 - Development drilling complete or nearly complete
 - Productive well on all leases
- **Can have multiple reservoir units on 1 lease**
- **Allocation = Net acre ft**
- **Unit area = reservoir**



Transboundary Unitization

- **Exploration Units**
- **Reservoir Units**
- **Model Unit Agreement for each type** (in progress)
 - Acceptable templates for actual Unit Agreements
- *Agreement between the United States of America and the United Mexican States Concerning Transboundary Hydrocarbon Reservoirs in the Gulf of Mexico (2012)*



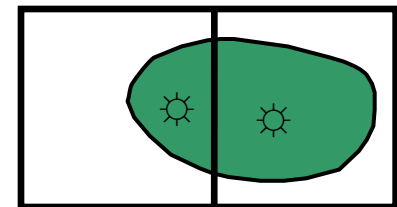
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Competitive Reservoir

(30 CFR 250.1302)

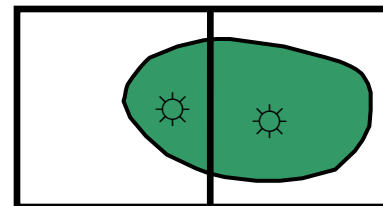
- **Competitive Reservoir (CR)**
 - Single rsvr. with 1 or more producing/producing completions on 2 or more leases with different operating interests
- **BSEE may require dev & prod ops in CR**
 - Under joint CR Development Program (CRDP), or
 - Unitization
- **Operator may request BSEE determination of CR**
 - BSEE preliminary determination
 - Operator 30 days to concur/object
 - BSEE final determination
- **If CR determined**
 - Lessees submit joint CRDP
 - If can't agree on CRDP within 90 days
 - Lessees submit separate CRDPs
 - BSEE hearing
 - If necessary, BSEE initiates compulsory unitization



Compulsory Unitization

(30 CFR 250.1301(b) & 1304)

- **BSEE may require unitized operations**
- **Action may be initiated by BSEE or lessee**
 - Lessee request must include
 - Proposed Unit Agreement
 - Proposed Unit Operating Agreement
 - Proposed Initial Unit Plan of Operation
 - Supporting data
- **Purpose**
 - Prevent waste
 - Conserve natural resources, or
 - Protect correlative rights, including Federal royalty interests
- **Reasonably delineated & productive reservoir**
- **4 active**
- **18 historically**
- **None since 1992**



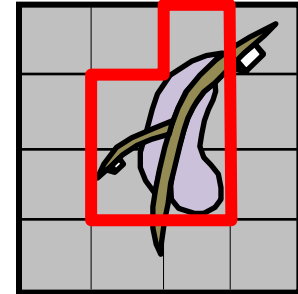
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Unit Area

(30 CFR 250.1301(c), 45 FR 87, May 1980; 53 FR 63, Apr 1988; 62 FR 24, Feb 1997)

- **Min. number of leases that will allow lessees to minimize number of platforms, facility installations, & wells necessary for efficient exploration, development, & production of...**
 - Oil & gas reservoirs (Reservoir Units)
 - Potential hydrocarbon accumulations common to 2 or more leases (Exploration Units)
- **Reservoir Unit**
 - Single reservoir
 - Encompass entire productive area of reservoir
- **Exploration Unit**
 - Single geologic structure
 - Encompass entire geologic structure
 - Only those leases needed for efficient exploration, development & production
- **Whole leases or portions of leases**



Unit Area

Approvable



- Logical unit area (common structure)
- Adjacent leases
- Each lease potentially supports well

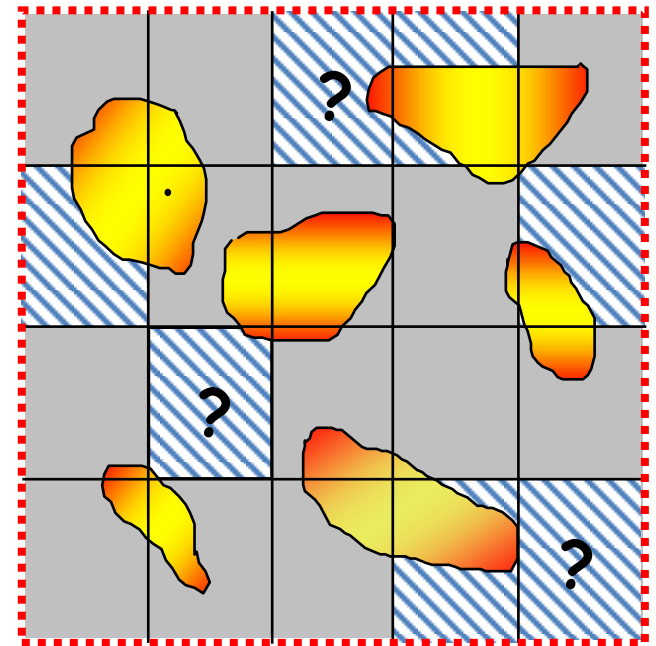


Expiring lease



Approvable unit outline

Not Approvable



Expiring leases



Proposed unit outline



Amplitude anomalies

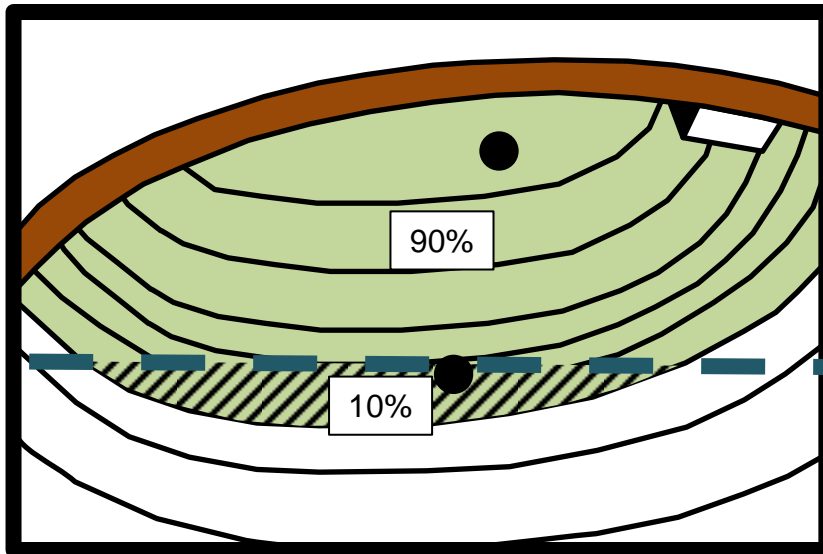
Unit Revisions

(Unit Agreement)

- **Expansion**
 - Areas necessary for unit ops or capable of production in paying quantities
 - Proper for prevention of waste, conservation of resources, or protection of correlative rights including Federal royalty interests
- **Contraction**
 - (In addition to automatic contraction to Participating Area after ____ yrs)
 - When necessary or advisable to conform with purposes of Unit Agreement
 - Unit Area not reduced due to depletion of oil or gas

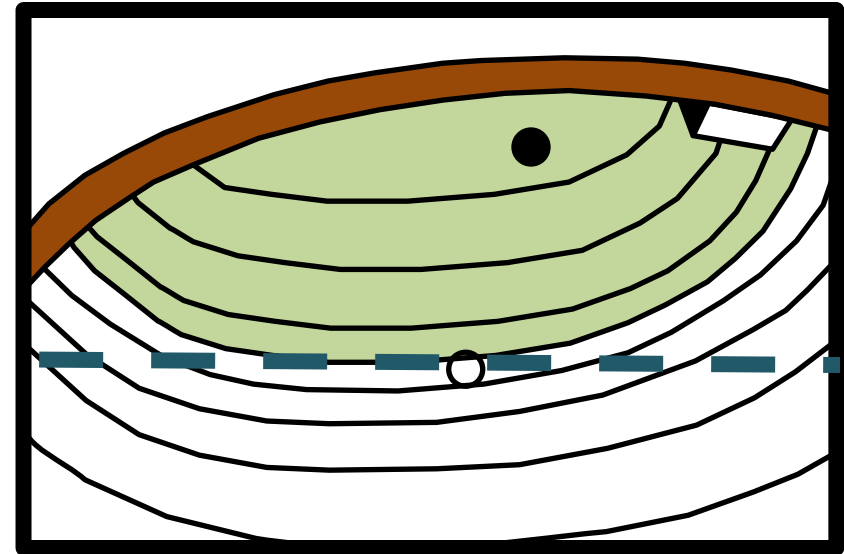
Unit Revisions – Correlative Rights

Before Production



- Assume 10 million bbl reservoir (green area)
- Assume 1 million bbl on southern lease (10%)

After 2 MMBO Produced



- Assume 2 million bbl produced
- Southern lease would have received 10% allocation = 200,000 bbls
- If removed from the unit at this time, owner of southern lease would lose 800,000 bbls of its allocation
- If royalty interests differ, Federal royalty interests could be harmed
- All acreage remains in unit & receives allocation until reservoir depletion to protect interests of all parties
- Relinquishment of lease in unit participating area requires prior BSEE approval (Unit Agreement)

Participating Areas

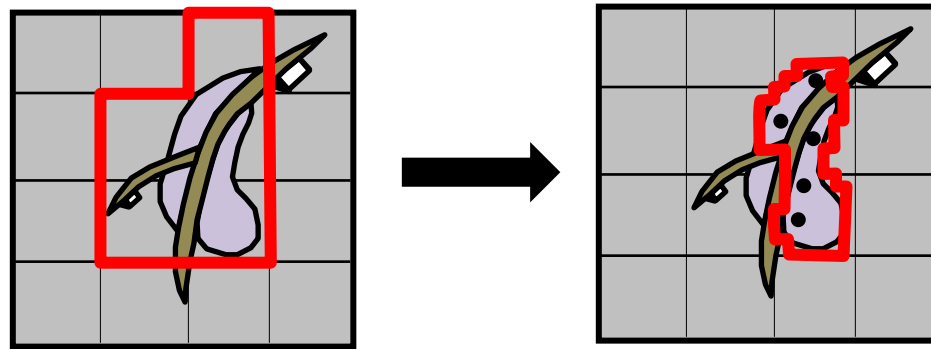
(Unit Agreement & 30 CFR 250.205)

- **Portion of unit reasonably proven capable of producing in paying quantities**
 - Drilling & completion of producible wells,
 - G&G info, and/or
 - Engineering data
- **Approved by BSEE – Initial PA effective at 1st prod** (Exhibit C)
- **% of oil & gas allocated to each lease within PA**
 - Volumetric (acre-ft)
 - Surface area (acres)
- **BSEE may take special measures to protect Federal royalty interests**
(30 CFR 250.205)
 - If well drains higher royalty lease, BSEE may require inclusion of that lease in PA
- **Acreage not removed from PA due to depletion of oil/gas**
- **Sometimes more than 1 PA**

Automatic Contraction of Unit Area

(Unit Agreement)

- Unit Area contracts to Participating Area after ___ yrs (specified in Unit Agreement)
- Automatic contraction effective on the specified anniversary of effective date of initial Participating Area (i.e., first production)



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Unitization Documents

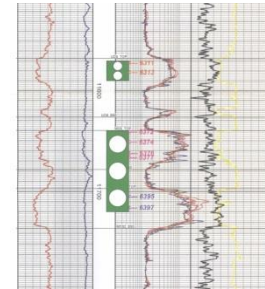
(30 CFR 250.1301(d), 1301(e), & 1303)

- **Unit Operating Agreement – Contract between companies**
 - Submitted to BSEE (but not approved by BSEE)
 - Describes how all costs & liabilities allocated
 - Describes how all benefits allocated
- **Unit Agreement – Contract companies sign**
 - Submitted to BSEE for approval
 - Designates unit operator (who accepts duties & obligations), specifies effective date of unit, establishes method of production allocation, stipulates automatic contraction, etc.
 - Exhibit A – map of unit area
 - Exhibit B – table with leases & ownership of each
 - Exhibit C – table with leases in Participating Area, and % of oil & gas allocated to each lease
- **Proposed Initial Unit Plan of Operation** (with request letter)
 - All unit ops conducted under a BSEE-approved Unit Plan of Operation
 - Expires on date specified – usually resubmit annually

Supporting Information

(30 CFR 250.1303 & 250.125)

- **Justification**
 - How will unit promote exploration & development?
 - Will unit conserve natural resources, prevent waste, or protect correlative rights?
- **Lease history & proposed initial unit operations overview**
- **Summary of discovery well findings**
- **Subsurface Information**
 - Latest 3D seismic
 - Representative seismic lines through prospect
 - Structure & amplitude maps
 - Well logs, correlations, petrophysical analyses, & engineering data
- **Cost recovery fee**
 - Currently \$12,619 – Voluntary unitization proposal or unit expansion
 - Currently \$896 – Unitization revision



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Unit Suspensions

(30 CFR 250.1301(g) & 250.168-177)

- Same criteria as lease suspensions
- Requested by operator
- Directed by BSEE
- Suspension of Production (SOP)
- Suspension of Operations (SOO)



Unit Termination

(30 CFR 250.180, 250.1301, & Unit Agreement)

- If 1 or more unit leases beyond primary term, continuous program needed:
 - Drilling
 - Well-reworking
 - Production in paying quantities
 - Lapses no more than 1 yr or Unit SOO/SOP
- Automatic termination when unit ops permanently abandoned

Questions?



BSEE Website: www.bsee.gov



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Bureau of Safety and
Environmental Enforcement

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